Royal Society of Tasmania.

ABSTRACT OF PROCEEDINGS, APRIL 29th, 1902.

A meeting of the Royal Society of Tasmania was held on Tuesday evening, April 29, 1902, in the society's new room, Argyle-street. The President, His Excellency the Governor, Sir Arthur Havelock, G.C.S.I., G.C.M.G., presided. The Governor was accompanied by Lady Havelock and Captain Gaskell, A.D.C.

Welcome to the New President.

The Hon. Nicholas J. Brown, Speaker of the House of Assembly, and Vice-President of the Royal Society, said he was charged with a duty of a very pleasant character. He had, on behalf of the Fellows of the Royal Society, to welcome His Excellency on that, the first, occasion of his presiding at a meeting of the Fellows. According to the charter of the society, the representative of His Majesty the King was, ex officio, President of the Royal Society of Tasmania, a privilege which, he believed, was not included in the charter of any other Royal Society in Australia. They knew, from ample evidence, since His Excellency's arrival in Tasmania, that he took a very warm and sympathetic interest in the welfare of this State, and the Fellows of the society hoped that His Excellency would derive pleasure from his association with that society. They felt confident the society would derive great advantage, encouragement, and assistance from His Excellency's association with the society from time to time. He desired briefly to allude to a few instances in the past history of the society. In the early days of its existence, considerable difficulty arose regarding land for its use. One Government after another promised land, but a great deal of correspondence took place, and a few years ago they found that their title to a portion of the land supposed to be obtained was doubtful. The records of the society were searched, and a statement was prepared, showing beyond all doubt, that while it was the general intention to grant the society a large block of land, including Franklin-square, ultimately the land given was confined to the block between Macquarie-street and Davey-street, now occupied by the society. Their title to that large area of land was now assured, but he desired to refer particularly to a letter found in the correspondence written by the early secretary, in which he spoke of the necessity for ample space being reserved to the society. He said the society "must be cumulative and expansive beyond any limit they could assign to it." The Fellows had done very well so far. They had got natural history specimens, and a fairly good representation of art, and, on the whole, he thought the institution would compare favourably with any institution in the other States. But they could say now, as the secretary said in 1857, that the society must be cumulative and expansive beyond any limit they could assign to it. Its first expansion now should be in the direction of the securing and equipment of a Technological museum. That seemed to be necessary, in view of the anticipations that, in the near future, Tasmania would become an important manufacturing and distributing centre for the whole of Australia. Technical instruction was being imparted in our schools, and he hoped that technical knowledge would progress. But a Technological museum was a very important thing to have at our command. While welcoming His Excellency to the Royal Society, he ventured to express a hope that, while it was certain that the present moment was not an opportune one at which to discuss heavy expenditure, yet they believed the present difficulties would roll away, and that His Excellency's tenure of office, as Governor, and as President of the Society, might be signalised by the addition of a Technological museum to the National Museum of Tasmania. He extended to His Excellency a very cordial welcome on behalf of the Fellows of the Society. (Applause.)

His Excellency the Governor said he begged the Fellows to accept his very sincere thanks for the extremely kind terms which they had extended to him. He felt proud to occupy the chair which had been occupied by John Franklin, William Denison, and Robert Hamilton. (Applause.) He was unprepared for the suggestion that was thrown out by the Vice-President, but (for the short time he had had to reflect upon it) it seemed to be one that deserved consideration. He trusted that before his time was over, the idea might be carried into practice. He thanked them once more for their kind welcome, and they would now proceed to the business of the evening. (Applause.)

New Fellows.

Major R. C. Lewis, D.S.O., and Dr. R. R. Whishaw, and Mr. Horace Watson, were elected Fellows of the society.

Apologies.

Apologies for unavoidable absence were received from the Archbishop of Hobart, Mr. T. Stephens, M.A., F.G.S., and Mr. L. Rodway.

President's Address.

His Excellency the Governor, as President, delivered the following presidential address:—

Mr. Vice-President, members of the Council, and Fellows of the Royal Society, — Among the many honourable and agreeable positions held by the Governor of Tasmania, there is none more honourable, none more agreeable, than that of President of the Royal Society of Tasmania. Not only can the Royal Society claim to be one of the oldest scientific bodies of Australasia, but it may also justly pride itself on having contributed largely to the stores of science and research which have been laid up in this great Southern Dominion. The society had its beginning in an informal association, of Sir John Franklin and of men among his friends and acquaintances, who shared with him his love of knowledge and of inquiry. Under Sir John Franklin's care, this association grew, until in 1841, before he relinquished his office of Governor, it was formed into an organised society, called the Tasmanian Society. But, it was not until three years later, when Sir John Franklin had left the colony, that the institution which he had brought into being, and which he had so lovingly cherished, reached its fulness of strength and dignity. On the 12th September, 1844, Sir J. E. Eardley-Wilmot, Sir John Franklin's successor in the Government of Tasmania, was able to proclaim that the Royal Society, with an approved constitution, and with a grant of £400 a year from public funds, had been formally established. At the same time, the Governor was authorised to make the auspicious announcement that Her Majesty the Queen had signified her consent to be Patron of the society. For fifty-eight years—until by death the Empire lost the noblest and best Sovereign that has ever been—the Royal Society continued to hold and treasure this signal mark of honour. His Majesty the King has now been graciously pleased to become Patron. The leading objects of the Royal Society were defined to be the investigation of the physical character of Tasmania, and the illustration of its natural history and productions. The constitution and objects of the society remain, at the present day, substantially what they were at the time of its establishment in 1844. Among the names of men associated with its work, the Royal Society records with pride—Sir John Franklin, its distinguished founder; Captains Ross and Crozier, successful Antarctic investigators; Sir Joseph Hooker, the great botanist; Sir George Grey, the eminent colonial statesman and politician; the Reverend Mr. Colenso, the ardent naturalist; the Reverend Dr. Lillie, an eminent scholar and divine; Sir Thomas Mitchell, the Australian explorer. I could greatly prolong the list, but I fear to weary you. The names I have recalled to you are probably already growing faint in the memory of the present generation. But the roll of the society contains one name which is fresh in all our minds and hearts—that of Sir James Agnew, whose keen intellect, and whose warm power of sympathetic interest, pervade the whole history of the society, from its earliest days, sixty years ago, until November of last year, when he was called to his rest. All Tasmania owes Sir James Agnew a deep debt of gratitude for the good deeds, for the open-handed munificence, and for the noble example, by which, during a long life, he helped to raise the character of her people, to cheer their hearts, and to brighten their lives. Tasmania and her Royal Society need no visible monument to keep alive their remembrance of Sir James Agnew. But, if they did, it may be found in marble, in the beautiful work of the sculptor's art, which adorns the Art Gallery of our Museum, and which he has bequeathed to Tasmania. The Honourable C. H. Grant and Dr. Bright, who passed away only a few weeks before Sir James Agnew, have left also a record of earnest and successful work, in the service of the objects of the Royal Society, and of high aims for the improvement of the community among whom they lived and laboured. And now, before I close my testimony, which I feel to be inadequate and imperfect, to the zeal, the perseverance, and the ability which have been devoted to the furtherance of the objects of the society, I should not be doing justice to my subject, if I were to omit the name of our secretary, Mr. Alexander Morton. I have hardly yet ceased to be a stranger among you. But, already, the assiduity, the tact, the power of organisation, which Mr. Morton has brought to bear upon the promotion of the interests of the Royal Society in particular, and upon the advance of science, and upon the cultivation of art in Tasmania, in general, have been forced upon my attention. You, who have known Mr. Morton for many years, and who have had long experience of his work, of his constant and strenuous efforts, and I may say his successful efforts, to do good, are, I know, deeply imbued with the respect and gratitude which are due to him. Mr. Morton's labour among us is a labour of love. He has lately returned from much-needed rest and recreation in New Zealand; and I know you will join with me in trusting that he may be long spared to continue his

career of usefulness among us. And, now I beg leave to be allowed to give a short summary of the history, for the past year, of the Royal Society, and of the Museum and Art Gallery, institutions which are closely allied with it. The council of the society and the Museum Board of Trustees have suffered great loss in the death of the three revered members whose names I have already mentioned. And, by the resignation and departure of Bishop Montgomery, the council has been deprived of the services of one of its most practical and active workers. The four vacancies thus created have been filled by the appointment of the Honourable Gamaliel Butler, M.R.C.S.E., M.L.C., Professor Neil Smith M.A., Mr. L. Rodway, and Mr. A. Mault. The high character and the scientific attainments of these men are well known to you, and need no comment from me. The scientific objects of the society have been furthered, and its records enlightened and enriched by the presentations of nineteen papers on Ornithology, Ichthyology, Conchology, Geology, Botany, Astronomy, and Geography. The subjects and authors of these papers are the following:—

Ornithology.—1. Note of the birds of Tasmania, by Col. W. V. Legge, R.A., C.M.Z.S.

Ichthyology. — 2. The Fishes of Tasmania, by R. M. Johnston, F.S.S.

Conchology.—3. The recent Mollusca of Tasmania, by Miss Mary Lodder. 4. Notes on some land shells from Maria Island, by W. F. Petterd, C.M.Z.S.

Geology.—5. The Minerals of Tasmania. 6. Description and analysis of a new species of Mineral, "Petterdite," a new Oxychloride of lead. 7. Description of a Meteorite from the Castra River. 8. Microscopic structure of some Tasmanian rocks, by W. F. Petterd, C.M.Z.S. 9. Outlines of the geology of Tasmania. 10. Progress of the mineral industry of Tasmania, by W. H. Twelvetrees, F.G.S. 11. Flexible sandstone, by Professor E. G. Hogg, M.A. 12. Notes on the discovery of coal at Wynyard, by R. M. Johnston, F.S.S.

Botany.—13. Tasmanian botany, by L. Rodway. 14. The present and future prospects of timber in Tasmania, by Wm. Heyn. 15. The value of the timber industry in Tasmania, by A. O. Greene. 16. Practical forestry in Tasmania, by A. Mault.

Astronomy.—17. Astronomical observations at the Cape, by H. C. Kingsmill, M.A.

Geographical.—18. Notes on a trip to Barn Bluff, by J. W. Beattie. 19. Account of a visit to British Columbia for the purpose of introducing the sockeye salmon (Onchorhynchus nerka) in Tasmanian waters, by Alex. Morton.

Antarctic Expedition.

The annals of science have been marked by the departure of the Antarctic ship Discovery, under the command of Captain Scott, Royal Navy, assisted by a staff of highly scientific men—among whom is Mr. L. Bernacchi, a young man, educated at the Hutchins School, in Hobart. Mr. Bernacchi was the meteorologist of the Southern Cross Expedition, which, under Sir George Newnes, explored the Antarctic in 1898-99. On the return of that expedition to London, Mr. Bernacchi was awarded by the Royal Geographical Society of England the society's diploma, the Cuthbert Grant Medal, and the society's gold watch, for his distinguished services.

A.A.A.S. Ninth Meeting.

The dignity of Hobart as a seat of science has been enhanced by a session of the Australasian Association for the Advancement of Science. I believe I may say that this was the most successful meeting of the association ever held in Australasia. Seven hundred members attended the session. A session of the Intercolonial Medical Congress has also been held in Hobart; and, although this congress is not directly connected with the Royal Society, I may claim that its session in Tasmania has added to the scientific lustre of the year.

New Additions to the Tasmanian Museum.

In the next place, I wish to draw your attention for a moment to the important extensions and improvements which have been made to the accommodation of the Royal Society, by the addition of the room in which we hold this evening's meeting, to the buildings of the Museum, and of the Art Gallery, and to the additions which have been made to the collections of the Art Gallery. I have already alluded to the splendid gift by Sir James Agnew of the statue of Medusa—probably the finest piece of sculpture to be seen in the Southern Hemisphere. In addition to this, the same generous benefactor has bequeathed to the Art Gallery several paintings of great beauty, and of high artistic merit. The Art Gallery has also been further enriched in the same way by munificent gifts, made by two ladies, the daughters of a Tasmanian statesman, whose name holds a distinguished place in the history of this country. A liberal grant of money by Parliament has enabled the Board of Trustees of the Museum, upon which the Council of the Royal Society are strongly represented, to complete the new wing of the Museum building, to provide a more suitable room for Tasmanian exhibits, and to add a large room specially

appropriated to the exhibition of objects and trophies, which will show to advantage specimens of the products of the Tasmanian mines and of the timber and cabinet woods found in the State. Photographs, by the artistic hand of Mr. Beattie, in number about six hundred, representing the beautiful scenery of Tasmania, have been hung on the walls of this room. The Museum and the Art Gallery now form institutions of which Tasmania may be justly proud, and with which, as a means of illustrating and bringing into notice the resources, the attractions, and the progress of Tasmania, and as a means of cultivating our taste for what is beautiful and elevating, we may well be satisfied.

Mr. Vice-President and members of the council, ladies and gentlemen,—I think you will concur with me in the gratifying opinion which I venture to express, that the Royal Society has, in co-operation with the Board of Trustees of the Museum, worked well during the past year, towards their combined purpose, of promoting science, art, and the progress of the country. I trust the sessional year of the Royal Society, which begins to-day, will, at its close, show equally good results.

Late Sir J. Agnew.

Col. W. V. Legge, R.A., moved,—"That in the further recognition of the valuable services rendered by the late Sir James Agnew to the Royal Society of Tasmania and to the community generally as a liberal patron of art and science, a subcommittee of the council be appointed to draw up an obituary notice to be published in the Society's Transactions of 1901; such committee to consist of the Hon. N. J. Brown, Messrs. Thos. Stephens, M.A., R. M. Johnston, F.S.S., and the mover."

Mr. A. G. Webster seconded the resolution, which was agreed to.

Papers.

Graptolites in Tasmania.

Professor E. G. Hogg, M.A., read a paper by Mr. T. S. Hall, M.A., Melbourne, on "Discovery of Graptolites in Tasmania."

A brief discussion upon the paper followed, in which Mr. R. M. Johnston and Professor Hogg took part.

"Tasmania as a Manufacturing Centre."

By Mr. R. E. Naghten B.A.

The advent of federation, and the consequent abolition of intercolonial duties, are bringing about new conditions, which are well worth the attention of the British manufacturer or capitalist. Of no part of the Commonwealth is this truer than of Tasmania. In the first place, Tasmania possesses, in a superabundant degree, what is conspicuously wanting in all the other federated States, namely, water power. To this must be added the fact that, owing to the peculiar configuration of the island, this water power can be utilised at the mouth of the Derwent, on which Hobart, the capital, is situated; in other words, this water power is available in conjunction with one of the finest natural harbours in the world. To get some idea of the natural features of the island which bring about this resultant water power, Tasmania may be compared to an inverted and slightly elongated basin. From the very coast inwards the whole island is mountainous, and these mountain ranges culminate in a vast plateau in the midlands, where the large annual rainfall is stored in the natural reservoir of the lake district. These mountain ranges, covered in many places with vast indigenous forests, attract the atmospheric moisture which the neighbouring continent of Australia, owing to its flat and monotonous landscape, is unable to retain, and from this high plateau the water so accumulated descends by one or other of the natural courses to the coast line in a series of abrupt falls in a comparatively short space, in a manner that seems almost ideal for the best development of water power. For instance, the Dee river, which is the natural outlet of Lake Echo, starts at a barometrical altitude of 2,975 feet, and the total fall in the short distance of 27 miles is 2,675 feet. (N.B.—The height of the Great Lake, 3,350 feet, and that of Lake St. Clair 2,500 feet above the sea.) Report by K. L. Rahbek, Mem. Dan. Assoc. C.E. An interesting professional report on the possibilities of the water power that is available from three of the central lakes, namely, Lake St. Clair, Lake Echo, and the Great Lake, has lately been presented to the Tasmanian Houses of Parliament. From this report it appears that the horse-power probably available from these three lakes amounts to a total of 82,000 actual horse-power, represented by 46,000 from Lake St. Clair, 9,000 from Lake Echo, and 27,000 from the Great Lake. In this connection Mr. Rahbek says:—"It must be borne in mind that by obtaining the power as specified, I have not in any way prejudiced the irrigation question; in fact, it has helped to solve it, inasmuch as I have made provision for giving ample compensation water for all irrigable lands for the parts of the rivers where water will be drawn for power; and below the terminal power-stations all the water is available for any purpose, and will be forwarded in a steady stream all the year round . . . . . In case it should be possible to make Ho-

bart the manufacturing centre of Australia, amongst other reasons, on account of her facilities in producing inexpensive and reliable power, the 82,000 horse-power at the different power-stations would be reduced by about 30 per cent, namely, by converting the mechanical energy into electric force, by friction and loss on line from power-stations to Hobart, and by reconverting the electric current into mechanical energy; and the power which could be distributed at Hobart would be, say, 57,000 actual horse-power. At present there is not one thousand horse-power consumed in Hobart for tram service and for lighting, but it is a true maxim that 'supply creates demand,' and if an inexpensive and plentiful supply of electric force was offered here the demand would increase; perhaps, under such conditions, Hobart itself might absorb from 5,000 to 7,000 horse-power, and 50,000 horse-power would be available for large manufacturing industries. . . . . Judging by the rapid strides which have been made during the last few years by electrical engineers and manufacturers, it is more than probable that within a few years it will be practicable and profitable to run all the Tasmanian railways, to supply light all over the island, to run all motors as well in the mines as anywhere else within this island by electric power, derived from water, but all this cannot be accomplished to-day." The water power mentioned in this report is that derivable from three only of the central lakes, and does not by any means exhaust the power available in other parts of the island; but enough has, perhaps, been said to give some idea of the vast quantity of water available, and of its value for commercial purposes. But water power is only one factor in the new situation. Even before federation, in spite of hostile tariffs, the manufacture of woollens in Hobart and Launceston was a growing industry. Partly owing to the climate, and partly owing to the excellence of the water supply, the local manufacturers were able to do an increasing export trade, even with the "protective" colony of Victoria, and notwithstanding her 25 per cent. duty. With the proper utilisation of water power (which has hitherto not been turned to account), and with the abolition of inter-colonial duties, there seem good reasons for anticipating that Tasmania will become a great manufacturing centre for woollens. Australia, the great wool-producing country of the world, lies at her very doors, and for fiscal purposes now forms part of the same community; and there seems little doubt that, as a purchaser of the raw article, the county of Yorkshire will in future find a formidable competitor in the colony of Tasmania. For at least fifty miles in a south-westerly and a south-easterly direction, each way from Hobart, the southern part of the island is pre-eminently suited for the establishment of "power" factories. From Hobart to Norfolk Bay on the one hand, and from Hobart to Franklin (situated in the Huon river) on the other, there is an uninterrupted stretch of deep yet completely sheltered water, which combines the advantage of a gigantic natural dock with the beauties of a lake. Along almost any part of these shores land can be obtained at practically "prairie value," which would be eminently suitable for the establishment of factories—that is to say, with deep water frontage, from which the manufactured article could be sent to the several Australian States by the cheapest of all means of transit, namely, water carriage. A greater contrast to the manufacturing centres of the Yorkshire woollen trade can hardly be imagined than these sheltered bays, with their forest-covered hills running almost down to the water's edge. At the present time the Channel (as the long and sheltered passage between the Island of Bruni and the mainland is termed) and the Huon river, whose waters flow into this channel's southern extremity, are chiefly known as a delightful roving-ground for tourists, and as a centre for the small fruit and apple trades. But it is at least within the bounds of reasonable probability that within the next twenty years these beautiful bays and quiet inlets, where the sea is calm, peaceful, and sheltered as a lake, may be resounding with the busy clang of machinery, though, fortunately, owing to the energy being derived from water power, there is no fear of the peculiar brightness of the atmosphere being marred by the volumes of smoke that cast a pall over the chief manufacturing centres of Yorkshire. There are at least three other industries which must make enormous strides with the advent of federation. It has already been incidentally mentioned that the valleys of the Channel and the Huon are the centres of the apple trade. In the past that industry has been seriously handicapped by the protective tariffs of the other colonies, with the single exception of New South Wales, and the duties thus imposed, added to such an appreciable extent to the price which had to be paid by the consumer, that only the wealthier classes were able to afford what, under these circumstances, became a luxury. But the moment that these hostile tariffs are removed the market expands automatically, and consists of four millions instead of about one million consumers; while the bulk of these four millions live in a climate which makes the consumption of large quantities of fruit almost imperative. Almost precisely the same remarks apply to the tim-

ber and the beer trades. The Tasmanian blue gum (Eucalyptus globulus) and the stringy bark (Eucalyptus obliqua) are amongst the most valuable hardwood timbers of the world, and, even in the teeth of an almost prohibitive tariff, a certain quantity was always exported to the mainland, chiefly owing to the fact that the timber country is in close proximity to water carriage, and the handling and transport were, in consequence, comparatively economical. Now, with the abolition of the tariff, the demand must enormously increase, and when once a proper system of re-afforestation is introduced, Tasmania must gain enormously and permanently from her wealth of forest lands. Lastly, it has been found that, owing to the temperate character of the climate and the excellence of the water supply, the beer which is brewed in Tasmania is very superior to the article produced on the mainland. Even before federation there was a considerable export; and now that the whole of Australia is open to the Tasmanian brewer, there seems every reason to believe that the brewing industry of Australasia will inevitably gravitate to the place where the climatic and general conditions are favourable to the production of the most superior article. In a brief sketch of this description it is impossible to do more than outline the new commercial tendencies which are at work in this part of Australasia, but enough has, perhaps, been said to show that, under federation, the island State of Tasmania is well worth the attention of the British manufacturer and the British capitalist.

Discussion on the paper was deferred till the 12th May.

Notes on a New Tasmanian Fish.

By Mr. R. M. Johnston, F.S.S.

Mr. Rodway, who takes a keen interest in all branches of the natural history of Tasmania, besides that of his loved science of botany, of which he is now our chief local authority, has recently submitted for my examination a small fish, preserved in spirits. Unfortunately, there was only one specimen obtained, and it is so shrivelled up that some of the ray characters cannot be very exactly determined. This specially applies to the anterior portion of the dorsal rays, which for nearly half the length of this fin are rudimentary or undeveloped, and closely enveloped in a somewhat thick and (now) opaque skin. However, the principal dental, scale, and other characters leave no doubt in my mind as to its true generic position, viz., the genus Pseudochromis of the family Trachinidae. The following contains a fuller description:—Family Trachinidae. Genus Pseudochromis. Rupp. Head and body rather compressed, more or less elongate; cleft of the mouth slightly oblique, with the lower jaw longest; eye lateral. Scales of moderate size, ciliated; lateral line interrupted. One dorsal with a few spines anteriorly; ventrals thoracic; the lower pectoral rays branched; jaws with cardiform teeth, anterior with canines; vomer and palatine bones toothed. Praeoperculum entire. Six branchiostegals; the gill-membranes joined inferiorly; pseudobranchiae and air bladder present; pyloric appendages none. Indian Seas. Port Darwin, Macquarie Harbour, Tasmania. Pseudochromis rodwayi R. M. Johnston. D.3/26—27. A. 3/17. P. 17. L. lat. 50? L. tr. 11. The height of the body is nearly five times in the total length; the length of the head four and a half. In front of both jaws there are markedly curved canine teeth, the three in the lower jaw the stronger; there are, besides narrow bands of small canine teeth on jaws, vomer and palatine bones; no spines on the operculum. Dorsal and anal produced posteriorly; half of the anterior portion of the former undeveloped or rudimentary, and enveloped for the most part in a somewhat thick (now) opaque, skinny integument. The number of spines on dorsal probably three, but not determined satisfactorily. Diameter of the eye nearly equal to width of interorbital space, and greater than the length of the snout. Colour in spirits a uniform darkish brown. This interesting little fish is only about 3 6-8in. in length, and is somewhat of the general appearance of one of our common shore blennies. Mr. Rodway informs me that the fish was captured by Mr. Hinsby, an enthusiastic collector, in or near Macquarie Harbour. It is to be hoped that he may soon obtain a few more specimens, in order to settle a few doubtful points in some of the characters. It is remarkable that, with the exception of a single member of the genus (P muelleri), described by Klunzinger from Port Darwin), this is the first member of the genus caught in Australian waters. The specific name is given by me in honour of our own distinguished botanist, Mr. L. Rodway.

Votes of Thanks.

The Hon. Adye Douglas (President of the Legislative Council) moved, and the Hon. N. E. Lewis (Premier) seconded, a vote of thanks to the president, which was cordially passed.

The President moved a vote of thanks to the readers of the three papers, which was also agreed to.

Members and the ladies present then adjourned to the large room, where refreshments were partaken of.

NEW ADDITIONS TO THE TASMANIAN MUSEUM AND ART GALLERY.

During the Parliamentary session of 1900 a vote of £4,000 was passed for additions to the Tasmanian Museum and Art Gallery, and it was decided to entrust the preparation of plans and specifications to the Public Works Department.

The original design, prepared by the late Mr. Hy. Hunter, in 1860, has been adhered to externally, as far as practicable, but the interior has been altered considerably to bring it more up to date; when the original design was made iron girders, steel joists, etc., were not available, and columns were necessary to support the upper floor. Now they have been dispensed with, and the whole floor space is clear in the new building.

Tenders for the work were invited in December, 1900, and Mr. W. H. Cheverton's, at £4,197 was the lowest, and was accepted. The work was commenced in January 1901, and the corner stone laid by His Excellency the Administrator (Sir J. S. Dodds), on the 20th March, 1901.

The front portion, facing Macquarie-street, is built of white and brown stone from Brighton and the Hobart Waterworks quarries. In the upper part of this front are three niches, which are proposed to be filled with statuary, etc., at some future date. The side and back walls are built of brick. The Museum and Art Gallery floors are each 93ft. in length, and 26ft. in width. A very ornamental embossed steel and zinc ceiling has been fixed in the Museum. The roof over the Art Gallery is open to the collar beam, and lined with pine boarding, painted in light tints, suitable for picture gallery. The roof is covered with Welsh slate. It is lighted with eleven large skylights, all the glass being fixed in specially prepared lead grooves, and no putty whatever is used in the glazing, as is usually done, consequently there will be no fear of shrinkage and leakage. Ventilation has been amply provided, there being three large air pump ventilators fixed in the roof, which connect to large galvanised iron shafts, with ornamental zinc ventilating centres fixed in the ceiling. Fresh air is admitted through 13 large air shafts about 7ft. above the floor. Tasmanian blackwood guard rails upon turned blackwood newels are fixed round the gallery to protect the pictures from injury. An ornamental staircase of special design, made out of Tasmanian blackwood and Huon pine, gives the visitor easy access from the trophy room to the Art Gallery.

The open court between the old portion of Museum and new additions has been utilised and enclosed by brick walls, and the whole space (64ft. by 56ft.) covered with a very neat and light-looking iron roof, abundance of light being provided through a large lantern light in the centre and skylights round the sides over the windows of the old building. The roof is covered with galvanised corrugated iron, laid upon roofing felt, and the underside lined with colonial stringy bark boarding; the portion under the lantern, being varnished, has very much the appearance of English oak.

The whole of the work has been satisfactorily carried out by the contractors, Messrs. W. H. Cheverton and Son, and sub-contractors, under the personal supervision of Mr. J. Shield, Inspector of Public Buildings, and his assistant, Mr. J. Maddison, Clerk of Works, and the architect, Mr. Orlando Baker.